

REMARKS

Claims 1, 2, 5-14 and 56-66 are pending in this application. Claims 12-14 and 56-65 are withdrawn from consideration. By this Amendment, claim 1 is amended, and claim 67 is added. Reconsideration of the application is respectfully solicited.

Applicant gratefully acknowledges the courtesies extended to Applicant's representative at the personal interview conducted March 18, 2004. The substance of the interview is incorporated in the following Remarks, which constitute Applicant's record of the interview.

The Office Action objects to the drawings for the informalities noted in the PTO 948 mailed June 23, 2003. By this Amendment, new drawings are submitted which do not have erasures, alterations, overwritings, interlineations, folds or copy machine marks. Withdrawal of the objection to the drawings is respectfully solicited.

Applicant appreciates the Office Action indication that claim 8 is allowable.

The Office Action rejects claims 1, 2, 5, 11 and 66 under 35 U.S.C. §103(a) over U.S. Patent No. 5,986,978 to Rottmayer et al. (hereinafter "Rottmayer") further considered with U.S. Patent No. 5,886,959 to Bischoff et al. (hereinafter "Bischoff"), or alternatively U.S. Patent No. 5,353,286 to Hintz with Bischoff and either Rottmayer or Hintz further considered with U.S. Patent No. 5,244,751 to Takayama et al. (hereinafter "Takayama"). This rejection is respectfully traversed.

Rottmayer discloses a recording head of high track density combined with a near field magneto-optical write element. Rottmayer discloses in Fig. 3 that the read element 62 has a width narrower than the optical channel 88. However, the write gap, formed by elements 96 and 85, is larger than the optical channel 88. Nowhere does Rottmayer disclose, teach or suggest a magnetic write gap having a length smaller than a spot diameter of the laser beam in the laser beam output surface.

Bischoff discloses a thin-film electromagnetic coil for use in a flying magneto-optical head, wherein the coil forms an aperture for transmitting an optical beam, which is focused to a spot smaller than the gap through which it is focused (See for example Figs. 4-8, and description in column 7, lines 48-65).

The Office Action asserts that "with respect to the limitations of the sizes of the beam spot size and the magnetic gap, the examiner interprets that the beam spot size generated in Rottmayer et al. is larger than that of the magnetic write gap by the use of the tapering waveguide element depicted in Figure 7." As discussed during the personal interview, Applicant respectfully disagrees with this assertion.

Rottmayer discloses in Figure 7 a tapered portion 88A formed in element 85. Element 85 is defined in column 6, lines 55-57, to be the first pole layer which defines a write gap 98. Rottmayer further discloses that the large end of the tapered channel 88A is coupled to an optical fiber 90 (column 8, lines 8-17). Therefore, the optical channel 88, and 88A which forms the waveguide, is formed within one pole of the write gap, and therefore is, by definition, smaller than the write gap width and write gap length. As a result, the beam spot size must be less than the write gap length. In contrast, claim 1 recites "the magnetic gap having a length smaller than a spot diameter of the laser beam in the laser beam output surface." Therefore, as agreed to during the personal interview, this feature is not disclosed or suggested in Rottmayer.

Furthermore, since Rottmayer specifically teaches that the optical channel 88, 88A is formed in the write pole element 85, it is respectfully submitted that Rottmayer teaches away from a magnetic gap having a length smaller than the spot diameter. Thus, Takayama cannot be combined with Rottmayer as suggested by the Office Action, because there is no motivation to combine them in view of Rottmayer's teaching away from the combination.

Moreover, from the above discussion, it is not clear how Rottmayer could be altered to provide a magnetic gap having a length smaller than a spot diameter, without changing the principle of operation of Rottmayer. As set forth in MPEP ¶2143.01, "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Hence, as agreed to during the personal interview, Rottmayer and Takayama cannot be combined to render claim 1 *prima facie* obvious.

Hintz discloses a thermomagnetic recording system using a magnetic assembly 300 and a heat source 200, wherein the heat source and magnetic assembly can operate on the same side of the medium. This can be accomplished by including within the magnetic assembly 300 a waveguide to direct laser light to the medium surface in a magnetic transducer gap, a fiber optic assembly located inside or outside the gap, incorporation of a laser diode into a magnetic transducer assembly, or other constructions (column 6, lines 64-69 through column 7, line 1).

Since Hintz does not disclose that the magnetic write gap length is smaller than the beam spot size, the Office Action attempts to combine Hintz with Takayama, to allegedly render obvious the combination of features recited in claim 1. However, Applicant submits that Hintz offers absolutely no motivation for designing the apparatus such that the magnetic write gap length is smaller than the beam spot size.

The Office Action asserts that the motivation is "to use existing manufacturing parameters and hence save the expense and time in retooling for manufacturing." However, as discussed during the personal interview, Applicant submits that nowhere in Hintz is such a motivation expressed. Furthermore, the motivation as stated is factually incorrect. There are no "existing manufacturing parameters" that presently are employed to make magnetic write gaps whose gap length is smaller than the spot size. The gap length, as stated, depends on the

spot size of the laser, and therefore is not a standard such that parameters would exist for its manufacture. It is well settled that a rejection based on 35 USC §103 must rest on a factual basis, which the Patent and Trademark Office has the initial duty of supplying. In re GPAC, Inc., 57 F.3d 1573, 1582, 35 USPQ2d 1116, 1123 (Fed. Cir. 1995). Applicant respectfully submits that no such factual basis exists because manufacturing such magnetic recording devices with varying parameters would not require retooling as asserted by the Office Action. Thin film manufacturing techniques are not analogous to large-scale techniques, such as machining or molding, which may require retooling to alter the parameters of the manufactured device.

Applicant submits that the motivation as stated in the Office Action would not be apparent to one skilled in the art at the time of the invention. Instead, the reasoning of the Office Action appears to be impermissible hindsight reconstruction, using the present application as a roadmap to pick and choose features from the references to recreate the combination of features recited in claim 1. Therefore, the Office Action has not made out a case of *prima facie* obviousness, because there is no motivation to make the combination.

Claims 2, 5, 11 and 66 depend from claim 1, and are patentable for at least the reasons set forth above with respect to claim 1, as well as for the additional features they recite. Therefore, Applicant respectfully requests that the rejection of claims 1, 2, 5, 11 and 66 be withdrawn.

The Office Action rejects claims 6 and 7 under 35 U.S.C. §103(a) over the art as applied to claim 1 above and further in view of U.S. Patent No. 5,615,183 to Ishii. This rejection is respectfully traversed.

Applicant submits that Ishii does not disclose or suggest "a magnetic write gap having a length smaller than a spot diameter of the laser beam," and therefore does not remedy the deficiency of Rottmayer, Hintz, Bischoff and Takayama with respect to claim 1.

Accordingly, Applicant respectfully requests that the rejection of claims 6 and 7 be withdrawn.

The Office Action rejects claims 9 and 10 under 35 U.S.C. §103(a) over the art as applied to claims 1 and 2 above, and further in view of Official Notice. This rejection is respectfully traversed.

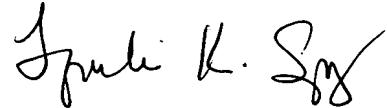
The Office Action takes Official Notice that the vertical cavity surface emitting semiconductor recited in claim 10 is considered to be a well known type of semiconductor. However, Applicant submits that this does not address the claimed combination of features including a magnetic write gap having a length smaller than the spot diameter of the laser beam in the laser beam output phase. Therefore, the Official Notice taken by the Office Action does not supply the subject matter outlined above as lacking in Rottmayer, Hintz, Takayama and Bischoff with respect to claim 1. Claims 9 and 10 depend from claim 1. Accordingly, Rottmayer, Hintz, Takayama and Bischoff and the Official Notice, either individually or in combination, do not disclose, teach or suggest the subject matter recited in claims 9 or 10. Withdrawal of the rejection of claims 9 and 10 under 35 U.S.C. §103(a) is respectfully requested.

The Office Action maintains the finality of the restriction requirement. Applicant respectfully submits that based on the patentability of claim 1, as discussed above, claims 12-14 and 56-65 should be rejoined because of their dependence on claim 1. Accordingly, Applicant respectfully requests rejoinder of claims 12-14 and 56-65.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 2, 5-7, 9-14 and 56-67, in addition to claim 8, are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Replacement Sheets

Date: March 22, 2004

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